



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,916	05/15/2001	Richard J. Larson JR.	06155-063001	1138

7590 10/31/2002

JOHN J. GAGEL
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804

EXAMINER

ZIMMER, MARC S

ART UNIT PAPER NUMBER

1712

DATE MAILED: 10/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,916

Applicant(s)

LARSON ET AL.

Examiner

Marc S. Zimmer

Art Unit

1712

MF-3

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 35-51 is/are pending in the application.
- 4a) Of the above claim(s) 27-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 14, 16-21, 24, 26, 35-44, 47, 48 and 50 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 15, 22, 23, 45, 46, 49 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-26 and 35-51, drawn to a composition and an article having said composition coated thereon, classified in class 428, subclass 450.
- II. Claims 27-³⁴~~35~~, drawn to a method of marking a substrate, classified in class 427, subclass 554.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). Here, it is asserted that the compositions disclosed in the claims of group 1 may be employed for many applications other than as a precursor for marking a substrate with a desired indicia. The art that is applied below supports the Examiners contention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Tu Nguyen on June 13, 2002 a provisional election was made with traverse to prosecute the invention of group 1, claims 1-26 and 35-51. Affirmation of this election must be made by applicant in replying to this Office

action. Claims 27-34 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Analysis

Claims 1 and 35, related by an intermediate final product relationship, are extremely broad claims directed, at least in part, to a marking composition containing (i) a silicon-containing polymer that is not necessarily a polysiloxane or even a polymer having silicon atoms in the backbone and (ii) a second material that is "capable of extending" the polymer that is component (i). It should be noted that this compound that is "capable" of doing something, or fulfilling some role, need not actually fulfill that role in order for the claim to be anticipated. That is, the claim only requires that the composition feature, in addition to the silicon-containing polymer, another material that bears reactive functional groups that may react with said polymer. Indeed, the reference would not necessarily have to teach an ensuing reaction involving components (i) and (ii) for the claim to be anticipated. Claims 1 and 35 also require that the composition be capable of undergoing chemical change that is observed visually when contacted with energy. More particularly, the Specification discloses that some compounds, upon being exposed to laser radiation, will be decomposed thus leaving

behind a marking of elemental carbon mirroring the path of the laser. It is expected that most all organic compounds will degrade to elemental carbon if the irradiation source supplies a sufficiently energetic beam hence this aspect of the claim is also not terribly limiting.

While the aforementioned claims are extremely broad in scope, the Examiner elected to initially search only those embodiments of the claimed composition explicitly disclosed by the Applicants. The results of that search are outlined in the rejections that appear *vida infra*. It should be emphasized however that the claims could be construed infinitely more widely given the quite general manner in which each aspect was described.

Finally, the Applicants have characterized their invention as a marking composition wherein the word marking is an indication of intended use as in "a composition for marking". It has been held that, "If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"); *Kropa v. Robie*, 187 F.2d at 152,

88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim); *STX LLC. v. Brine*, 211 F.3d 588, 591, 54 USPQ2d 1347, 1350 (Fed. Cir. 2000) (holding that the preamble phrase "which provides improved playing and handling characteristics" in a claim drawn to a head for a lacrosse stick was not a claim limitation). "A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Accordingly, the reference need not disclose a comparable composition as being a candidate for marking articles for the claim to be anticipated.

Claim Objections

Claims 1-26 and 35-51 are objected to because the base claims, claims 1, 16, and 35 recite the utilization of a "polymerizable" material whereas it seems evident from the Specification that said material is already polymerized and, therefore, should be referred to as a polymer comprising silicon. Appropriate correction is required. Claims 43-49 are objected to because it would be more appropriate to specify precisely what part of the article, e.g. the composition, is being further limited.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8, 20, and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It cannot be ascertained whether the Applicants are referring to a molar- or weight ratio. Clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9-10, 13-14, 16-18, 21, 24, 26, 35-40, 43-44, 47-48, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Ternoir et al., U.S. Patent # 5,275,645. Ternoir discloses a protective coating composition, or binder, for application over a variety of substrates that are susceptible to corrosion and/or mechanical degradation including the interior surfaces of petroleum tankers and the surfaces of offshore drilling platforms (column 14, lines 32-41). In a first embodiment the coating composition is comprised of an oxysilane resembling that portrayed at the top of column 3 or the silicone depicted in column 3, line 23, a basic catalyst (column 3, lines 34-51), and an organometallic co-catalyst (column 3, line 52 and column 7, lines 49-68 through column 8, lines 1-19). Particularly favored are those embodiments where the oxysilane

is a trialkoxysilane, i.e. where $n = 1$ in the formula representing this component. In column 5, lines 66-68, Ternoir states that the silicone is, in fact, preferably provided *in addition to* the silane. They further contemplate the formation of binders by way of reacting each of the above organosilicon compounds, catalysts and a polyhydric alcohol (column 8, lines 20-68 through column 9, lines 1-49). Significantly, a condensation-curable polysiloxane, a polyol, and an organo-functionalized trialkoxysilane correspond to the most preferred embodiments of the silicon-containing polymer, chain-extender, and crosslinking agent respectively of the instant invention. Therefore, claims 1-3, 5, 9-10, 13, 16, 21, 24, 35-37, 39, 43-44, 47, and 50 are anticipated.

As for claims 4, 17, and 38, most of the polyols mentioned in columns 7 and 8 contain only two or three carbon-bound hydroxy groups.

As for claims 6, 18, and 40, in describing the silicone component, Ternior stipulates that the substituents bound at the silicon atoms are independently selected from methyl, ethyl, and phenyl groups (column 6, lines 34-36). In those incarnations of the polymer wherein both a methyl/ethyl group and a phenyl group are present, the claim limitations are satisfied.

As for claims 14, 25 and 48, the incorporation of co-catalysts based on platinum metal are contemplated in column 8, lines 17-19. Furthermore, each of the organometallic catalysts mentioned in columns 7 and 8 may be categorized as a lewis acidic catalyst considering the electrophilic nature of the metal center.

As for claim 26, the weight ratio of the silicone to silane may range between 3:2 and 10:1. (The preferred ratio of these materials will, of course, depend on the degree

of crosslinking that is desired.) Moreover, the weight ratio of the organosilicon compounds to the polyol is stipulated to be less than 20:1 so that sufficient flexibility may be conferred. In the embodiments wherein the silane content is low, i.e. where the first ratio reported tends toward 10:1, and polyol content is also low, the requirements of claim 26 are satisfied.

Claims 1-5, 9-10, 13-14, 16-17, 21, 24, 35-39, 43-44, 47-48, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Lutz et al., U.S. Patent # 5,973,044. Concerning claims 1-3, 5, 9-10, 13-14, 16, 21, 24, 35-37, 39, 43-44, 47-48, and 50, Lutz describes a primer composition that may be employed to better adhere siloxane polymers to diverse substrates ranging from glass to aluminum sheets and copper panels to epoxy board (column 8, lines 36-45). The composition is comprised of (1) a polyhydric alcohol, (2) a polyorganosiloxane having at least one hydroxyl/hydrolyzable group and at least one "organofunctional" group, and (3) a silane having three hydrolyzable groups (column 2, lines 24-31). As before, these three compounds correspond to the chain-extender, silicon-containing polymer, and crosslinking agent favored by the Applicant respectively. The adhesion-promoting product is obtained by chemically condensing these materials in the presence of a catalyst selected from bronsted acids and bases or a lewis acidic organotitanium catalyst.

As for claims 4, 17, and 38, the polyols are those adhering to the formula $R^1(OH)_m$ wherein m is from 2 to 4 (column 3, lines 14-19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 19, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ternoir et al., U.S. Patent # 5,272,645. One of ordinary skill will appreciate that a methylphenylsiloxane resin is an obvious embodiment of a silicone that will preferably only contain methyl, ethyl, and/or phenyl groups.

Allowable Subject Matter

Claims 11-12, 15, 22-23, 45-46, 49, and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims assuming all formal objections over the base claims are overcome. Neither of the aforementioned documents particularly identify a blocked silane as one of the materials from which those coating compositions are made nor would there appear to be any indication in the prior art as to why one would have selected a blocked silane from the vast array of silanes available. Also, given the intended use of the compositions taught by these references, the Examiner could conceive of no reason why it would have been obvious to add an optical tag.

Conclusion

As further illustration of the uninventive nature of many of the embodiments of the claimed composition, the Examiner cites Witucki et al., U.S. Patent # 5,426,168,

Law et al., U.S. Patent # 4,113,665, Sumida, JP 02-211278 A and JP 73-008461 B (abstract). These references all anticipate at least some embodiments of the instant invention but, insofar as they do not teach aspects of the invention other than those already addressed above, will not be summarized herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 703-605-1176. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

June 17, 2002



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700